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RELATIONSHIP OF STRESS LEUKOCYTE FUNCTIONS AND ACUTE  
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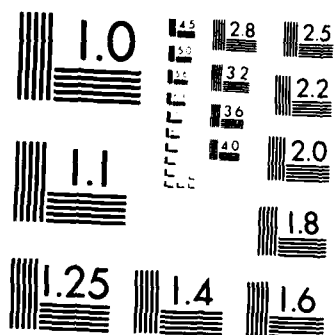
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Report Number 3

RELATIONSHIP OF STRESS, LEUKOCYTE FUNCTION  
AND ACUTE ULCERATIVE GINGIVITIS

ANNUAL SUMMARY REPORT

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Steven Cohen-Cole and Katherine Kirk

October 22, 1982

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Our third year in the study has thus far resulted in additional corroboration of the first two years findings. The ANUG patients appear to be suffering from anxiety and depression which may be correlated by a tendency for increase in psychologic disturbances. Also it appears as though increased susceptibility to the causative microorganisms may be based on decreased lymphocyte and PMN function.			

Summary:

Our third year in the study has thus far resulted in continuation and correlation of the reported first two years findings. The ANUG patients appear to be suffering from anxiety and depression which may be accompanied by a tendency for emotional disturbances. Also it appears as though increased susceptibility to the microorganisms may be based on decreased lymphocyte and PMN function.

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Foreword:

This is the third annual report, and I am happy to report that we have been able to meet our third year milestone of completing 100 patients. We have accumulated a wealth of data and analysis of the data has been confirming our hypotheses. It also suggested some new avenues for further investigation which may prove fruitful in our understanding not only of ANUG, but also other stress-related diseases and host-related defense mechanisms. For the protection of human subjects the investigator(s) have adhered to the policies of applicable Federal Law 45CFR46.

## Body of Report:

Some of our findings to date are as follows:

- (1) The patients were mostly between 17-35 years of age. The youngest patient was 14 years old and the oldest was 33 years old. The mean age was 23.9 years old.
- (2) None of the patients with ANUG this year were black. This suggests that there may be a genetic component and may be worth investigating. We feel that this may be an important uncovered component and was an unexpected finding.
- (3) The differential white blood cell counts were discontinued since all that were tested within the normal range for all patients as well as controls.
- (4) The data from the psychologic testing instruments indicated that:
  - (a) Very Recent Life Changes - ANUG patients showed a significant difference in the subject magnitude of recent life events, with patients rating their life changes as more severe.
  - (b) Dohrenwend's Life Events Scale - Most significant differences between patients and controls occurred in the absolute number of reported negative life events, and also the magnitude of the negative events.
  - (c) Social Support - Preliminary analysis showed a trend for patients to rate their social support as lower than controls. More refined analysis will be attempted to separate some of the nuances revealed by subscales of this instrument.
  - (d) Speilberger State/Trait Anxiety Inventory - Indicated a highly significant increase of State Anxiety in ANUG patients at T1 (upon presentation with the disease. This increase was not significant at T2. Also the Trait Anxiety of patients was significantly higher at T1 and T2.
  - (e) General Health Questionnaire - This test correlates very well with diagnosis of emotional disorders by psychiatrists. When we use the suggested range of score of 5.0 or more on this scale we found that may more of the patients scored in the emotionally disordered range compared to patients.
  - (f) Center for Epidemiological Studies Depression Inventory indicated that more of the patients scored in the depressed range compared to the controls.
  - (g) Minnesota Multiphasic Personality Inventory which was tested at T2 (after resolution of the disease) indicated that patients had significantly elevated scores on both the Depression Scale and the Psychopathic Deviance Scale.

(5) Blood Leukocyte Function Assays:

- (a) Phagocytosis - Assessed by Stimulated NBT test - There is a depression of ANUG patients compared to controls, which was significant.
- (b) Leukotaxis - Assessed with modified Boyden chamber using a filtrate of E. coli as the attractant. There was a significant depression in ANUG patients compared to controls after correcting for non-stimulated migration.
- (c) Lymphocyte function was assessed by response to non-specific mitogens. There was little or no difference during this year's results when comparing patients to controls.

In summary, the basis of this year's data, it appears that several psychosocial variables are strongly associated with ANUG. Also, several of the measurers of immune function were depressed in ANUG patients when compared to controls. The extreme paucity of black patients with ANUG has continued through the third year of the study and is highly suggestive of an important genetic component to this disease which is worthy of further exploration. These findings to date, suggest that genetic, psychosocial, and immune variables may all play a role in the pathogenesis of this illness. We hope in the future to be able to design prospective studies to help clarify the relative importance and relative dependence of these various factors.

As a result of the work this year, two reports have been made to National Meetings:

1. International Association of Dental Research 1982.
2. International Association of Dental Research 1982.

The above abstracts have been included with this report.

In addition, 3 manuscripts have been forwarded to refereed journals for publication.



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